

CLAIMS

What is claimed is:

1. A data transmission system for machine tools or production machines, comprising:
a controller;
at least one internal drive;
at least one external drive;
an internal parallel data bus connecting the controller with the at least one internal drive and having an internal data bus profile; and
an external data bus connecting the controller with the at least one external drive and having an external data bus profile identical to the internal data bus profile,
wherein the external bus is selected from the group consisting of Profibus, real-time Ethernet bus, USB bus, FireWire bus, Sercos bus and Profinet bus.
2. The data transmission system of claim 1, wherein the internal drives and the external drives further comprise I/O units, with the I/O units of the internal drives integrated in or externally connected to the internal drives, said I/O units being connected with the corresponding internal and external drives by the identical data bus profile.

3. The data transmission system of claim 1, wherein the internal parallel data bus, the controller and the at least one internal drive are logically configured in the same manner as the external data bus.
4. The data transmission system of claim 1, wherein the at least one internal drive and the at least one external drive are coupled with each other so as to exhibit at least one of clock synchronism, identical timing and synchronized acquisition of an actual value.
5. The data transmission system of claim 1, wherein the parallel bus is a PCI bus.

6. A data transmission system for machine tools or production machines, comprising:
 - a controller;
 - at least one internal drive;
 - at least one external drive;
 - an internal parallel data bus connecting the controller with the at least one internal drive and having an internal data bus profile; and
 - an external data bus connecting the at least one internal drive with the at least one external drive and having an external data bus profile identical to the internal data bus profile,wherein the external bus is selected from the group consisting of Profibus, real-time Ethernet bus, USB bus, FireWire bus, Sercos bus and Profinet bus.
7. The data transmission system of claim 6, wherein the internal drives and the external drives further comprise I/O units, with the I/O units of the internal drives integrated in or externally connected to the internal drives, said I/O units being connected with the corresponding internal and external drives by the identical data bus profile.
8. The data transmission system of claim 6, wherein the internal parallel data bus, the controller and the at least one internal drive are logically configured in the same manner as the external data bus.

9. The data transmission system of claim 6, wherein the at least one internal drive and the at least one external drive are coupled with each other so as to exhibit at least one of clock synchronism, identical timing and synchronized acquisition of an actual value.
10. The data transmission system of claim 6, wherein the parallel bus is a PCI bus.